simply cinema

SUB350

Dolby Pro-Logic Surround
Amplifier/Subwoofer

PRELIMINARY SERVICE MANUAL

JBL Consumer Products
250 Crossways Park Dr.
Woodbury, New York 11797

Note: The SUB350 is part of the ESC350 system
Service data for the ESC350 Processor/CD player/Tuner, the "Source" is available in a separate service manual

The "Source" is necessary to test or play the SUB350.

Parts for satellite loudspeakers 300SAT are also available in separate service literature

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BASIC SPECIFICATIONS

ESC350 SYSTEM

Total System Output	200 watts Front channels – 35 watts x 3 @ .1% THD Surround channels – 15 watts x 2 @.1% THD Subwoofer – 65 watts @ .1% THD
Frequency response	35Hz – 20kHz
S-N ratio	90 dB
Input Impedance	20k Ohms
Input Sensitivity	1500mV

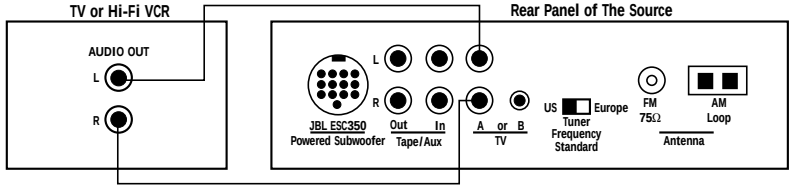
SUB350

Dimensions	15 1/8 x 13 x 14 ½" (384 x 330 x 368mm)
Weight	34.5 lbs. (15.7 kg)

Occasional refinements may be made to existing products without notice but will always meet or exceed original specifications unless otherwise stated

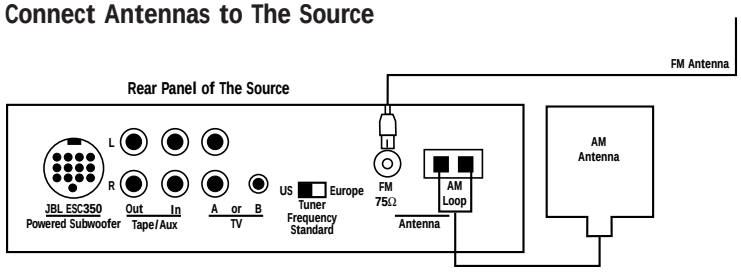
Connections

Connect TV or VCR to The Source

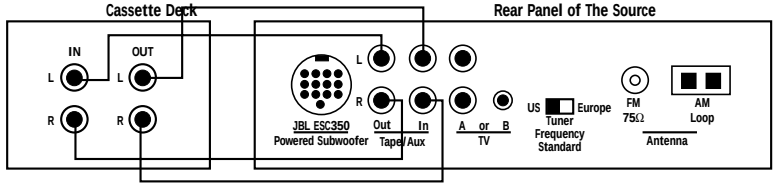


Note: The Source also provides a stereo mini-jack (B) to provide an easy connection to devices that have a stereo mini-jack audio output.

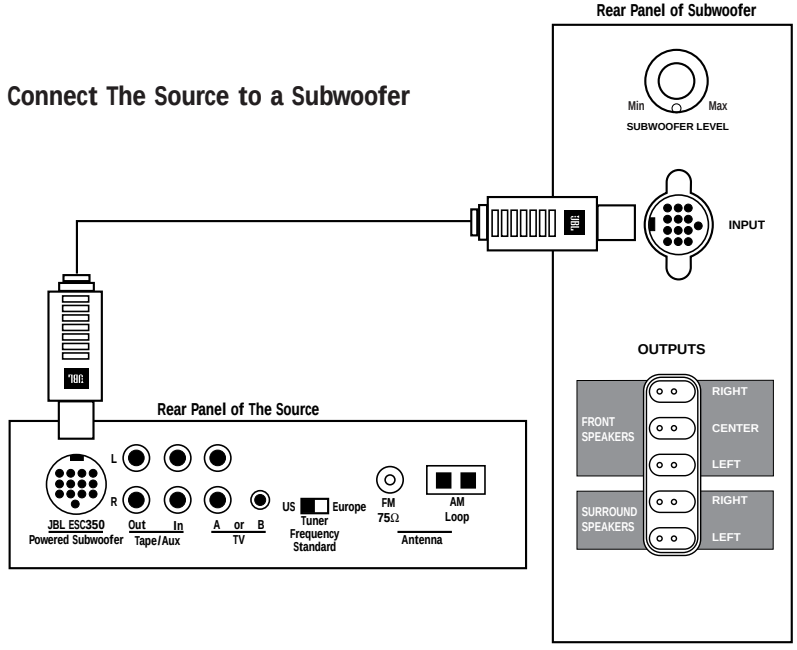
Connect Antennas to The Source



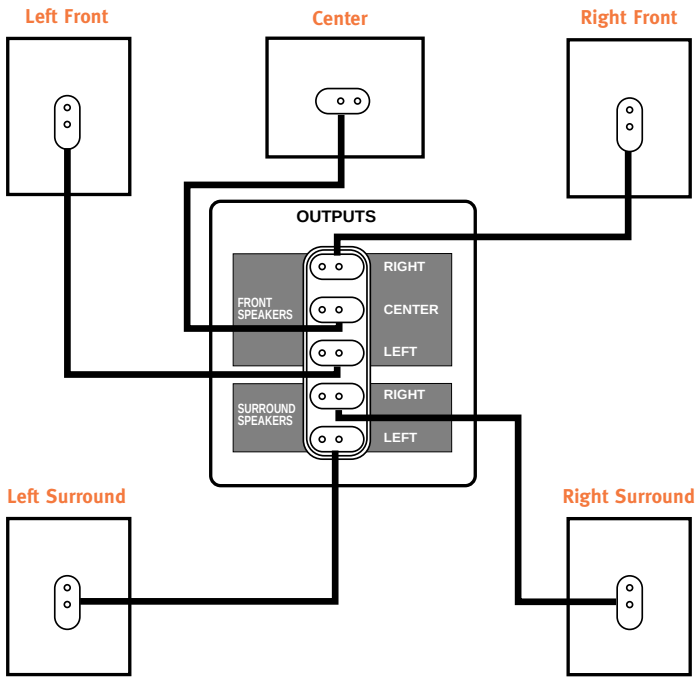
Connect Optional Cassette Deck to The Source



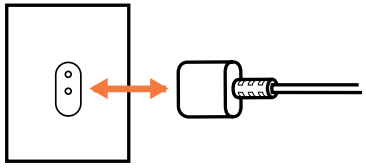
Connect The Source to a Subwoofer



Speaker Connections

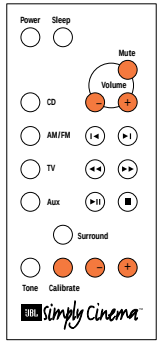


Speaker and Amplifier Connection

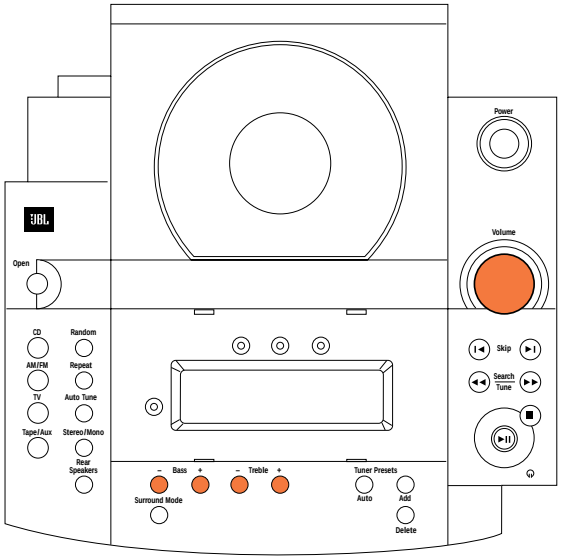


Operation

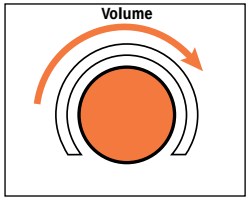
Remote Control



The Source

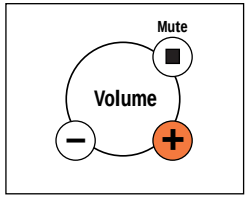


Volume



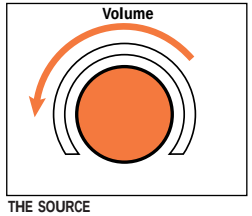
THE SOURCE

To raise volume:
Turn control on The Source clockwise or



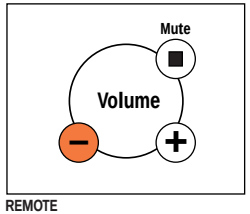
REMOTE

push "+" on the remote control.



THE SOURCE

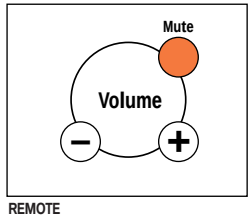
To lower volume:
Turn volume control on The Source counter-clockwise or



REMOTE

push "–" on the remote control.

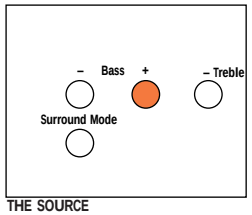
Mute



REMOTE

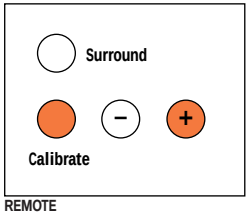
To lower volume completely: Push "Mute" on the remote control. When "Mute" is pushed again, the volume will return to its original level.

Bass



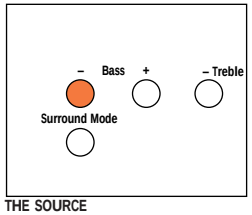
THE SOURCE

To raise the bass level:
Push “+” on The Source or



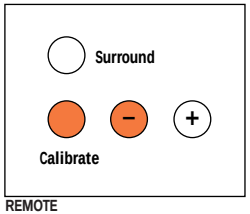
REMOTE

push “Calibrate” on the remote control until “Bass” illuminates in The Source display. Push “+” until you reach the desired level.



THE SOURCE

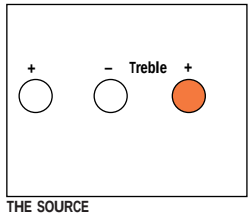
To lower the bass level:
Push “–” on The Source or



REMOTE

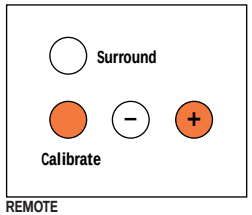
push “Calibrate” on the remote control until “Bass” illuminates in The Source display. Push “–” until you reach the desired level.

Treble



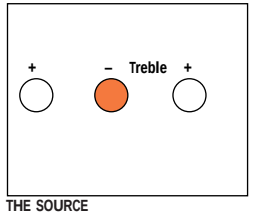
THE SOURCE

To raise the treble level:
Push “+” on The Source or



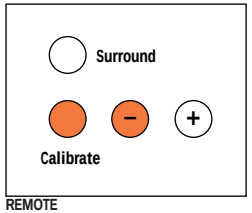
REMOTE

push “Calibrate” on the remote control until “Treble” illuminates in The Source display. Push “+” until you reach the desired level.



THE SOURCE

To lower the treble level:
Push “–” on The Source or

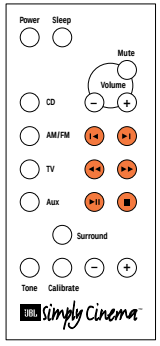


REMOTE

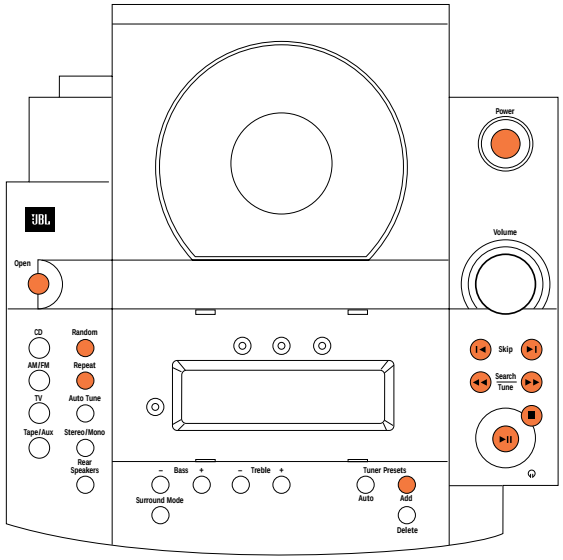
push “Calibrate” on the remote control until “Treble” illuminates in The Source display. Push “–” until you reach the desired level.

CD Operation

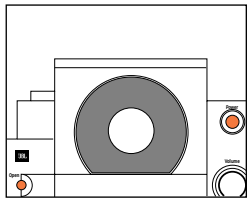
Remote Control



The Source

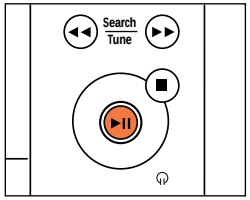


To Play a CD



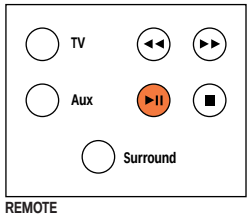
THE SOURCE

1. Push “Power” and/or “Open” on The Source.
2. Insert CD.



THE SOURCE

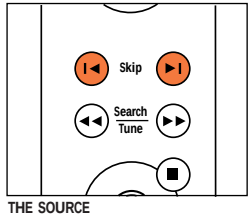
3. Push “Play” on The Source or



REMOTE

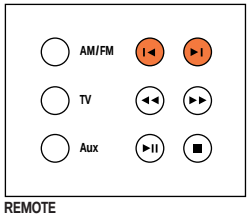
the remote control. (The door will close automatically.)

To Skip to a Different Track



THE SOURCE

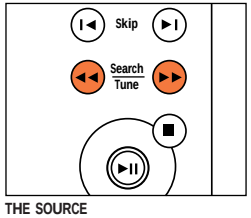
Push “I<” or “>I” on The Source or



REMOTE

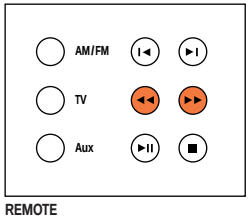
the remote control until the number of the desired track appears on the display.

To Scan within the Same Track



THE SOURCE

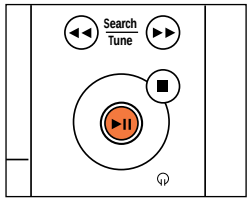
Push “<<” or “>>” on The Source or



REMOTE

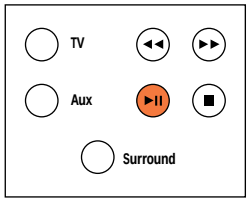
the remote control.

To Pause the CD



THE SOURCE

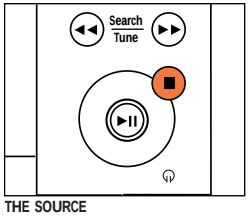
Push “Pause” on The Source or



REMOTE

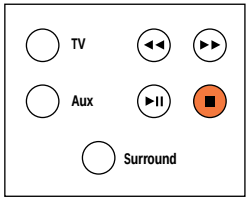
the remote control. Push again to resume play.

To Stop the CD



THE SOURCE

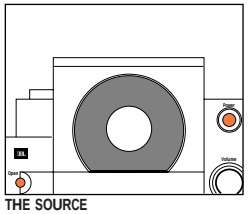
Push “Stop” on The Source or



REMOTE

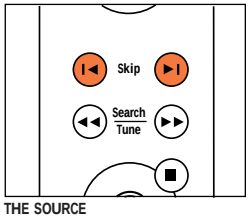
the remote control.

To Program the CD



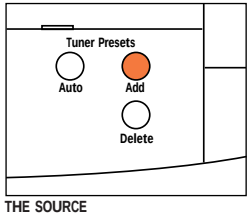
THE SOURCE

1. Push “Power” and/or “Open” on The Source.
2. Insert CD.



THE SOURCE

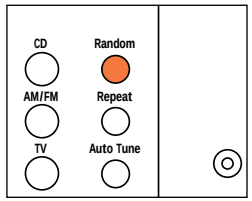
3. Push “I<” or “>I” to select desired track.



THE SOURCE

4. Push “Add” to program track. Repeat procedure until all desired tracks are programmed.

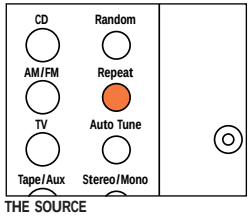
To Play the Tracks of a CD in Random Order



THE SOURCE

Push “Random” on The Source. The Source will automatically delete each track it has played from the “Random” operation.

To Repeat the Disc



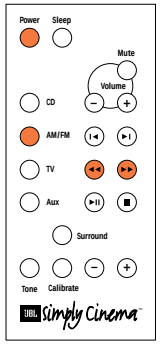
THE SOURCE

Push “Repeat” on The Source.

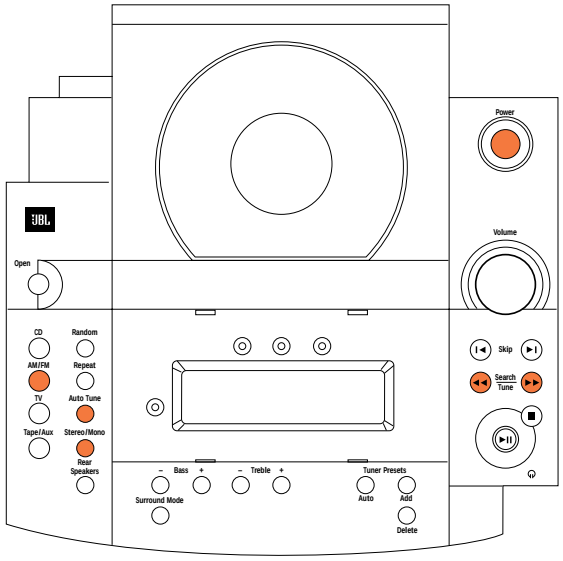
Note: If “Random” and “Repeat” are both engaged the CD player will randomly play the disc, deleting all played tracks, until the disc is finished. It will then randomly play the disc again.

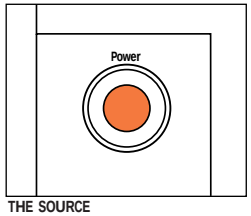
Tuner Operation

Remote Control



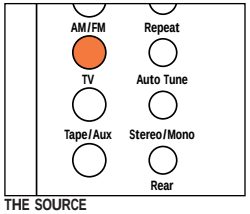
The Source





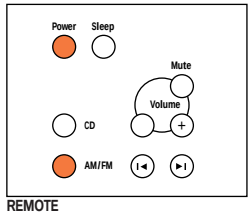
THE SOURCE

Push “Power” on The Source or



THE SOURCE

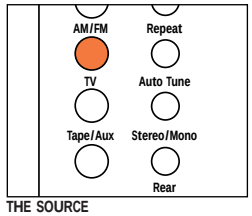
“AM/FM” on The Source or



REMOTE

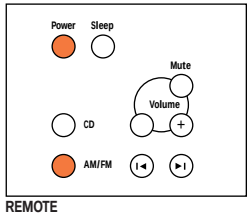
the remote control.

To Switch Between AM and FM



THE SOURCE

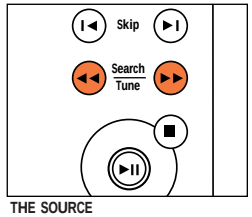
Push “AM/FM” on The Source or



REMOTE

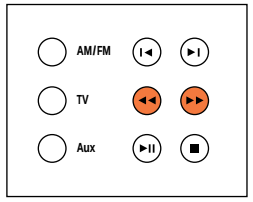
the remote control.

To Tune to a Particular Station



THE SOURCE

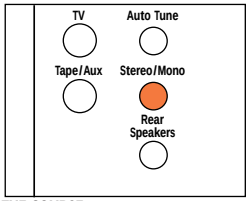
Push “<<” or “>>” on The Source or



REMOTE

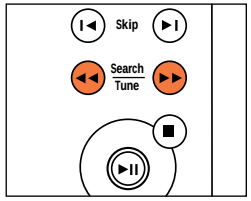
the remote control. To search rapidly, hold down the “<<” or “>>” button.

If a Selected FM Station is a Little Noisy



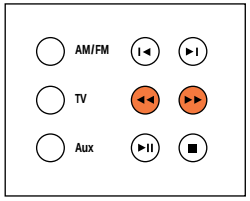
THE SOURCE

Push “Stereo/Mono” on The Source. This will play the selected station without any stereo separation, but there will be much less background noise.



THE SOURCE

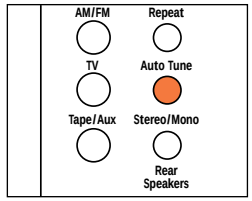
When in the “Mono” mode, the “<<” or “>>” on The Source or



REMOTE

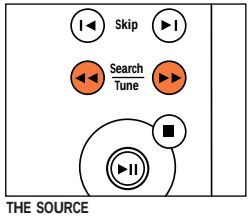
the remote control will tune up or down one frequency at a time.

To Have the Tuner Search for the Next Strong Station



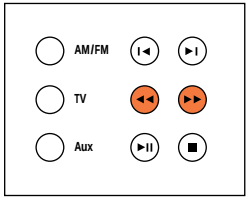
THE SOURCE

Push “Auto Tune” on The Source.



THE SOURCE

Then, when you push “<<” or “>>” on The Source or

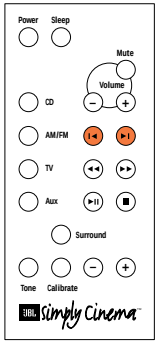


REMOTE

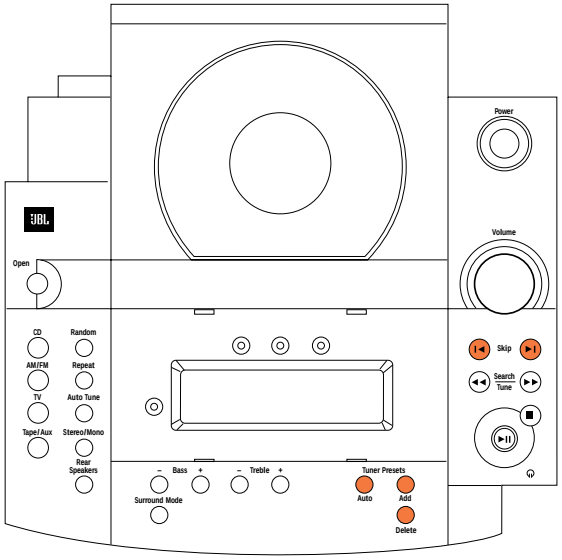
the remote control, the tuner will automatically advance to the next station with a strong signal.

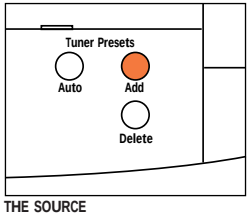
Preset Operation

Remote Control



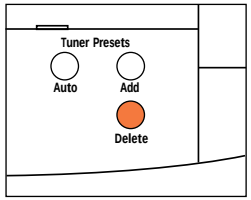
The Source





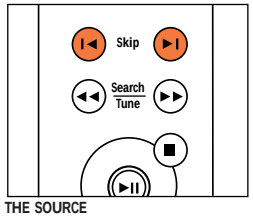
THE SOURCE

1. Tune to the station that you want to add into memory.
2. Push "Add" on The Source. That station is now added to your selection of stations in memory.



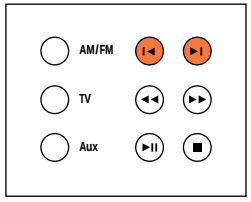
THE SOURCE

3. To delete a preset: Push "Delete" on The Source. That station is now removed from your selection of stations in memory.



THE SOURCE

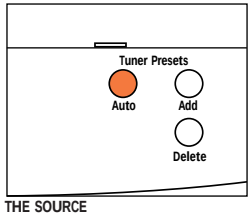
4. To skip between preset stations: Push "I<" or ">I" on The Source or



REMOTE

the remote control.

The Source has a unique feature that will automatically place up to 32 stations in memory. To activate this feature, push and hold the "Auto" button for one second. The tuner will search the dial and place the stations with a strong signal into memory.

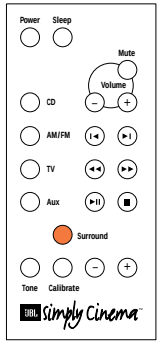


THE SOURCE

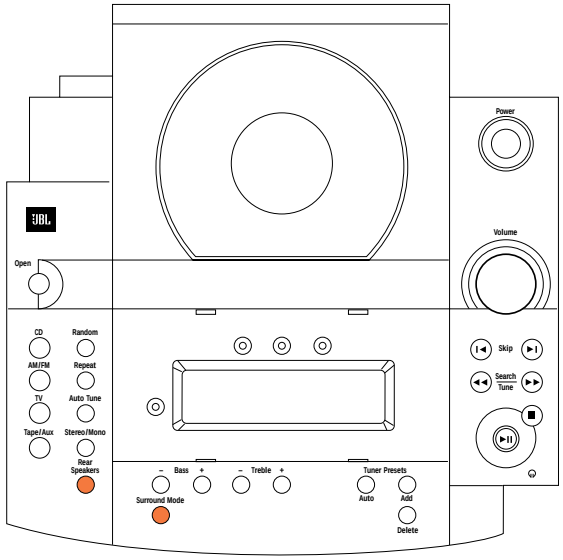
Note: Activating this feature will delete all stations that were previously stored in memory. To prevent this from accidentally occurring, the Auto button will only activate if held for a full second.

Surround Mode Operation

Remote Control



The Source



What is Dolby* Pro Logic*?

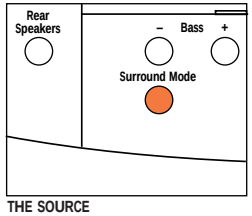
Dolby* Pro Logic* is an encode/decode process by which four channels of sound-track information are encoded into two channels for playback on VCRs, laser disc players, and some TV broadcasts, and then decoded back into four channels for playback through five loudspeakers. Remember that a Dolby Pro Logic system consists of three channels of information for front left, center, and right speakers and one channel of mono surround information. The surround channel is played back through two speakers. Dolby Pro Logic helps to re-create all of the impact and excitement of a movie theater in your home.

This system contains three surround modes.

1. Dolby Pro Logic – In this mode all five speakers are used.

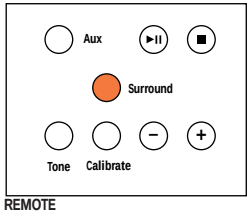
2. Dolby Pro Logic Phantom – In this mode the center channel does not operate. This may be preferred when listening to a music source that was not recorded with surround-channel information.

3. 2-channel – In this mode the program is played back in a traditional stereo form.



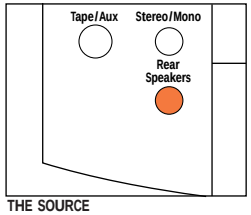
THE SOURCE

To switch between the three surround modes: Push “Surround Mode” on The Source or



REMOTE

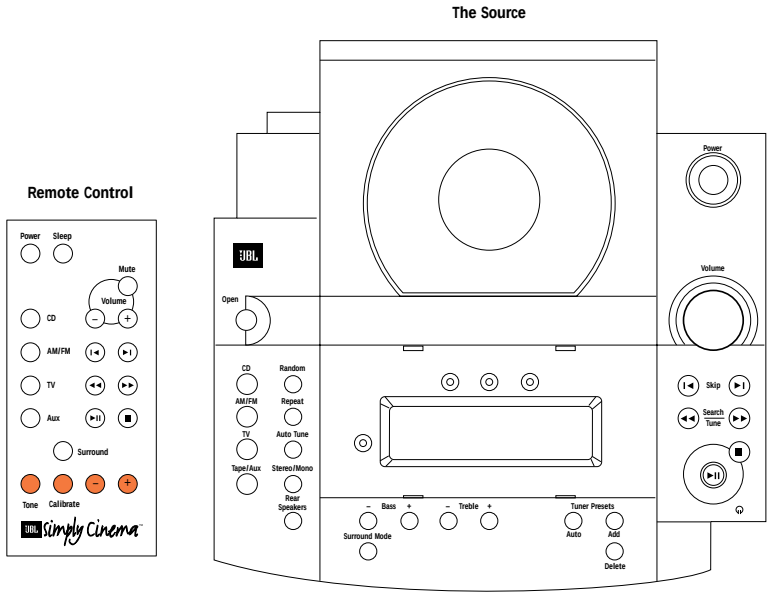
the remote control.

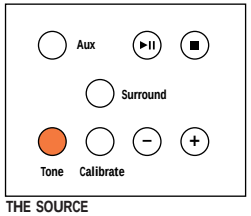


THE SOURCE

If you are listening to a program in the Dolby Pro Logic Normal or Phantom mode and you wish to turn off the surround speakers: Push “Rear Speakers” on The Source.

Test Tone



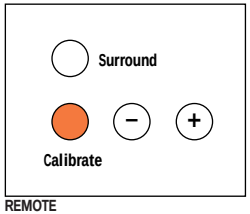


THE SOURCE

For proper Dolby Pro Logic operation, a test tone is used to calibrate the volume settings of the speakers. A noise will be heard cycling, in order, from the front left, center, right, and both surround speakers.

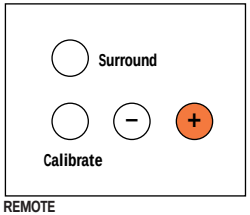
Using the remote control, push "Tone." Then adjust the Center and Surround levels until the volume of all the speakers is the same during the test. *Note:* The test tone is used to calibrate the performance of the system. When listening to an actual recording, the volume level of the surround channels is generally much lower than that of the front channels. In fact, when listening to a movie, virtually all of the dialogue and a substantial number of the effects are reproduced through the center channel.

Balance



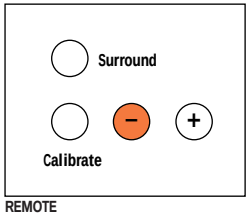
REMOTE

Push "Calibrate" on the remote control until "Balance" appears in the display.



REMOTE

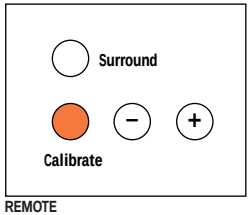
Push "+" on the remote control to adjust the balance toward the right speaker.



REMOTE

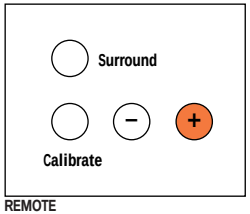
Push "–" on the remote control to adjust the balance toward the left speaker.

Center-Channel Volume



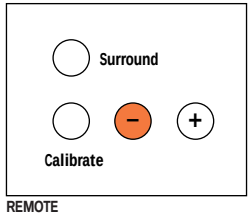
REMOTE

Push "Calibrate" on the remote control until "Center" appears in the display and the corresponding LED on top of the display is lit.



REMOTE

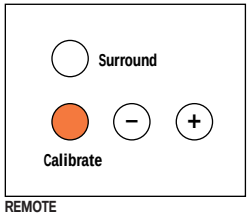
Push "+" on the remote control to increase the volume of the center channel.



REMOTE

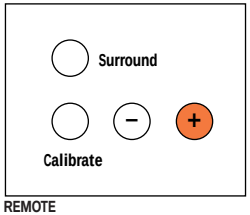
Push "–" on the remote control to decrease the volume of the center channel.

Rear-Channel Volume



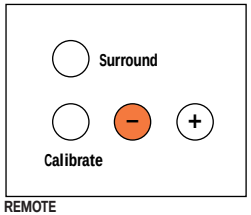
REMOTE

Push "Calibrate" on the remote control until "Rear" appears in the display and the corresponding LED on top of the display is lit.



REMOTE

Push "+" on the remote control to increase the volume of the rear channels.

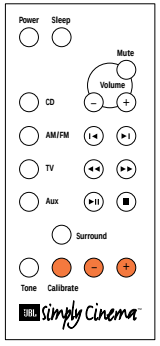


REMOTE

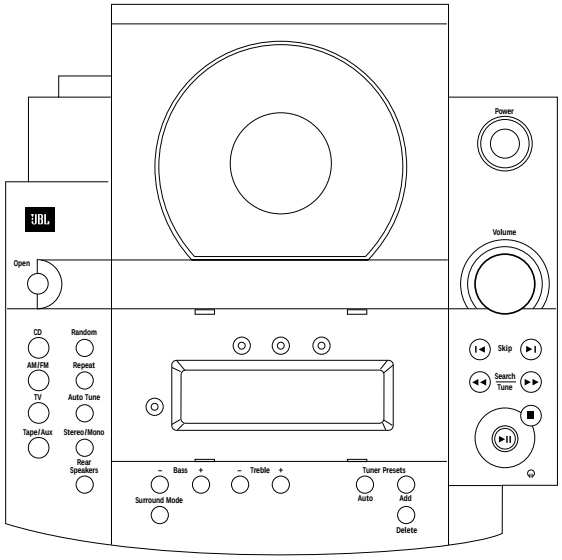
Push "–" on the remote control to decrease the volume of the rear channels.

Delay Time

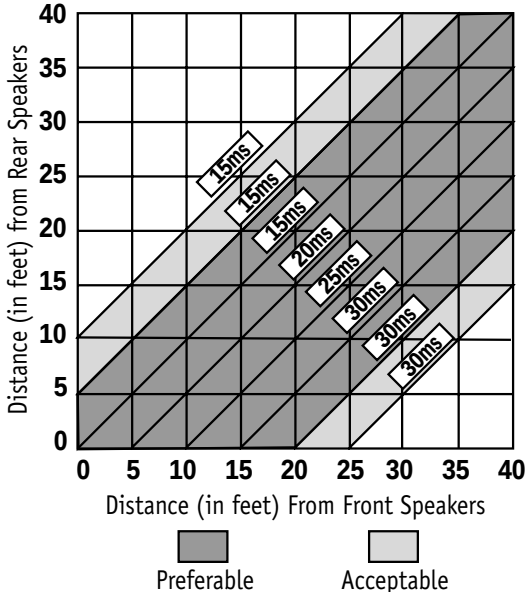
Remote Control

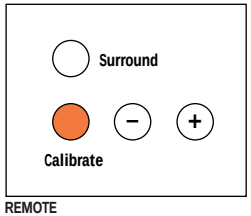


The Source



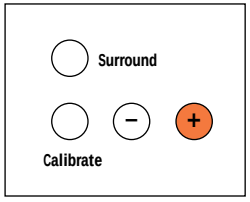
The delay control allows the user to set the surround delay between 15 and 30 milliseconds in one-millisecond increments. The best setting will depend on the distance between the main listening area and the front speakers as well as the distance between the main listening area and the rear speakers. The chart at the bottom shows the recommended settings.





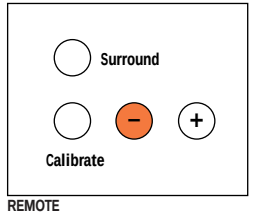
REMOTE

Push “Calibrate” on the remote control until “Delay” appears in the display and the corresponding LED on top of the display is lit.



REMOTE

Push “+” on the remote control to increase the delay time.



REMOTE

Push “–” on the remote control to decrease the delay time.

Troubleshooting

If there is no sound from any of the speakers, check the following:

• Make sure the subwoofer is plugged into an active AC wall outlet.
• Make sure the Master Power Switch, located on the rear of the subwoofer, is in the "On/Standby" position.
• Make sure there is a source – for example, a VCR or television – hooked up to the TV or tape/aux input jacks on The Source.
• Make sure that the program material is playing.
• Recheck the hookup connections.

If most of the sound comes from the center-channel speaker, with little or no information from the surround channels, note the following:

Although most of today's televisions are equipped with stereo audio output jacks, some stereo televisions have poor audio sections and are unable to provide a Dolby Pro Logic encoded signal. In the unlikely event that you experience this problem, connecting the audio outputs from your hi-fi VCR, laser disc player, DVD player, or satellite receiver directly to one of the inputs on The Source will provide a proper audio signal and allow you to enjoy true Dolby Pro Logic surround sound.

If there is no sound from the surround speakers or sound is very low, check the following:

• Check all connections between the amplifier and each of the speakers.
• Raise the surround volume from the remote control (see "Operation" section).
• Make sure the TV show or movie you are watching is recorded in Dolby Surround.

If there is no sound from the center speaker, check the following:

• Make sure that the processor is in the Pro Logic mode. If it is in Phantom or Stereo mode, the center speaker will not play.
• Check the connections between the subwoofer and the center speaker.

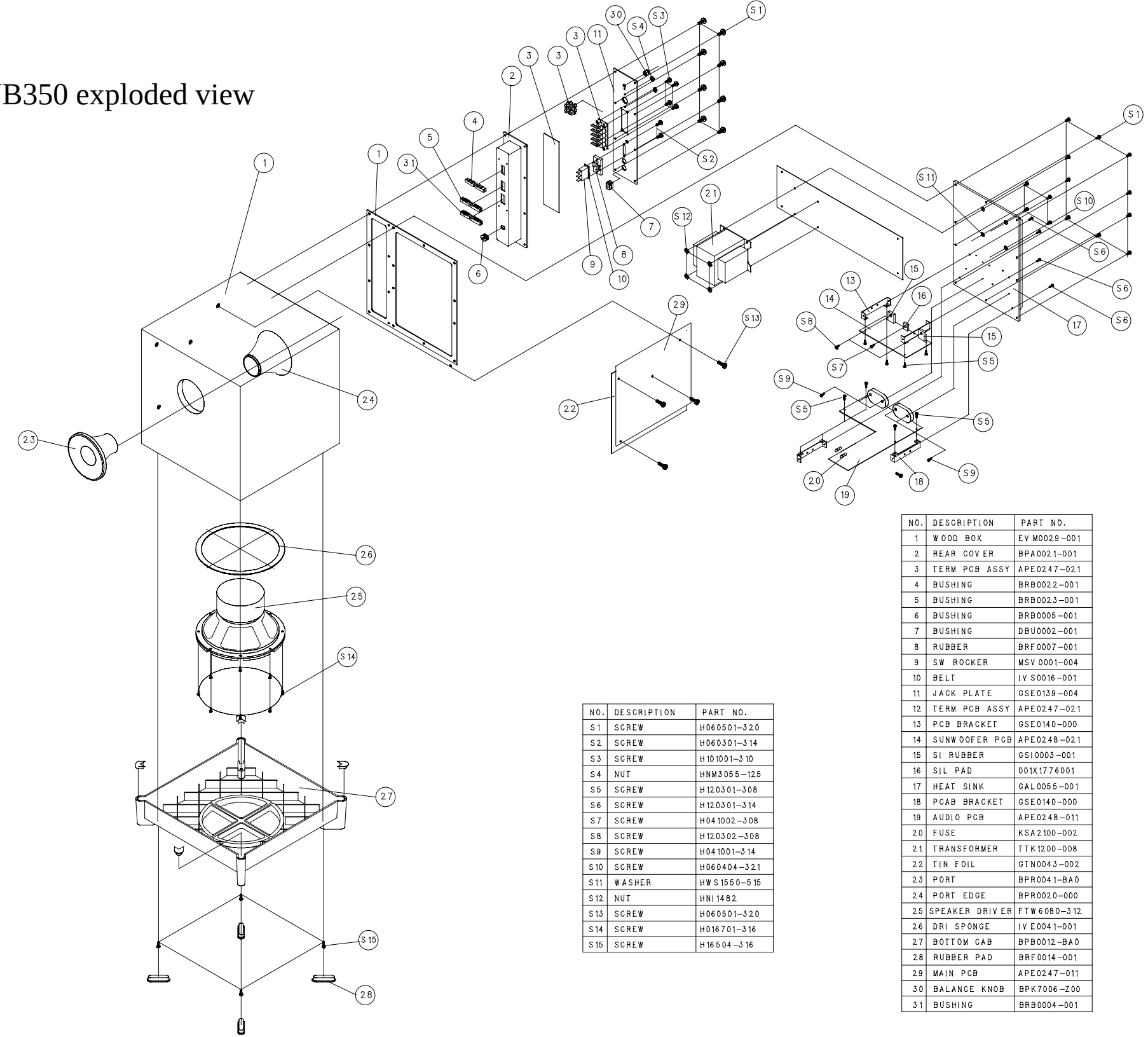
If you have low bass output, check the following:

• Experiment with placement of the subwoofer. Remember, place the subwoofer in a corner to get maximum bass output from the system.
• Increase the level of bass, using the remote control.
• Adjust the level control on the rear of the subwoofer.

If you are having trouble picking up radio stations, check the following:

• Make sure the antenna is hooked up properly.
• Depending on your distance from the station's transmitter, you may need to install an FM antenna on the roof or in the attic.

SUB350 exploded view



NO.	DESCRIPTION	PART NO.
S1	SCREW	H060501-320
S2	SCREW	H060301-314
S3	SCREW	H101001-310
S4	NUT	HNM3055-125
S5	SCREW	H120301-308
S6	SCREW	H120301-314
S7	SCREW	H041002-308
S8	SCREW	H120302-308
S9	SCREW	H041001-314
S10	SCREW	H060404-321
S11	WASHER	HWS1550-515
S12	NUT	HNI1482
S13	SCREW	H060501-320
S14	SCREW	H016701-316
S15	SCREW	H16504-316

NO.	DESCRIPTION	PART NO.
1	WOOD BOX	EVM0029-001
2	REAR COVER	BPA0021-001
3	TERM PCB ASSY	APE0247-021
4	BUSHING	BRB0022-001
5	BUSHING	BRB0023-001
6	BUSHING	BRB0005-001
7	BUSHING	DBU0002-001
8	RUBBER	BRF0007-001
9	SW ROCKER	MSV0001-004
10	BELT	IVS0016-001
11	JACK PLATE	GSE0139-004
12	TERM PCB ASSY	APE0247-021
13	PCB BRACKET	GSE0140-000
14	SUNWOOFER PCB	APE0248-021
15	SI RUBBER	GSI0003-001
16	SIL PAD	001X1776001
17	HEAT SINK	GAL0055-001
18	PCAB BRACKET	GSE0140-000
19	AUDIO PCB	APE0248-011
20	FUSE	KSA2100-002
21	TRANSFORMER	TTK1200-008
22	TIN FOIL	GTN0043-002
23	PORT	BPR0041-BA0
24	PORT EDGE	BPR0020-000
25	SPEAKER DRIVER	FTW6080-312
26	DRI SPONGE	IVE0041-001
27	BOTTOM CAB	BPB0012-BA0
28	RUBBER PAD	BRF0014-001
29	MAIN PCB	APE0247-011
30	BALANCE KNOB	BPK7006-Z00
31	BUSHING	BRB0004-001

SUB350 ELECTRICAL PARTS LIST

Part#		Description		Qty	Designator/Details
Semiconductors					
RAN0945-001	XISTR NPN	2SC945P NEC		1	"B" AND "C" TO IC852 PIN 6 "E" TO GND
RHI0740-001	IC 14 PIN	TL074CN	DUAL OP. AMP IC	5	IC405 IC406 IC753 IC754 IC851
RHI1237-001	IC 8 PIN	UPC1237HA NEC	PROTECT IC	1	IC701
RHI1298-001	IC 14 PIN	uPC1298V NEC	50-80W POWER AMP DRV	1	IC802
RHI4558-001	IC 8 PIN	JRC4558D JRC	DUAL OP. AMP IC	1	IC852
RHI7809-001	IC 3 PIN	7809 9V 1A	REGULATOR	1	IC904
RHI7812-001	IC 3 PIN	7812 12V 1A	REGULATOR	1	IC905
RHI7912-001	IC 3 PIN	7912	REGULATOR	1	IC906
RHI7915-001	IC 3 PIN	7915	REGULATOR	1	IC907
RHN0882-001	XISTR NPN	2SD882P		1	Q803, Q914
RHP0772-001	XISTR PNP	2SB772P/Q NEC		1	Q910
RAP0733-001	XISTR PNP	2SA733Q,P NEC		1	Q601
RHN5198-001	XISTR NPN	2SC5198-O TOSHIBA	HFE:80-160 W/MICA	1	Q801
RHP1941-001	XISTR PNP	2SA1941-O TOSHIBA	HFE:80-160 W/MICA	1	Q802
RAD4148-001	DIODE SW	1N4148		1	D919
RAN0945-001	XISTR NPN	2SC945P NEC		4	Q909 Q911 Q912 Q915
RAP0733-001	XISTR PNP	2SA733Q,P NEC		1	Q913
RAD4001-001	RECTIFIER	1N4001 1A 35VRMS		8	D901 D902 D911 D912 D913 D914 D916 D917
RAD4148-001	DIODE SW	1N4148		1	D601
RAZ4747-001	DIODE ZENR	19.5-20.4V 1W	1N4747 ZENER	4	IC501 PIN 4 TO GND, IC501 PIN 12 TO GND, IC502 PIN 4 TO GND, IC502 PIN 12 TO GND
RHD5401-001	RECTIFIER	1N5401 3A 70VRMS		4	D907 D908 D909 D910
RHI4151-001	IC 18 PIN	STK4151MK5 SANYO	2CH 30W POWER AMP	2	IC501 IC502
RHI7815-001	IC 3 PIN	7815 15V 1A	REGULATOR	1	IC901
RAD4001-001	RECTIFIER	1N4001 1A 35VRMS		1	D801
RAD4148-001	DIODE SW	1N4148		4	D802 D803 D804 D806
RAN0945-001	XISTR NPN	2SC945P NEC		2	Q804 Q806
RAN2001-001	XISTR NPN	2SC2001L NEC		1	Q805
RAD4001-001	RECTIFIER	1N4001 1A 35VRMS		5	D501 D903 D904 D905 D906
RAN0945-001	XISTR NPN	2SC945P NEC		1	Q908
RAN2001-001	XISTR NPN	2SC2001L NEC		1	Q511
RAP0733-001	XISTR PNP	2SA733Q,P NEC		1	Q505
RHD5401-001	RECTIFIER	1N5401 3A 70VRMS		4	D810 D811 D812 D813
Capacitors					

Part#		Description		Qty	Designator/Details
PRD1335-100	COND DISC	10 pF 50V 5%	NP0	2	C518 C538
PRD3545-102	COND DISC	1000 pF 50V 10%	Y5P	4	C501 C502 C521 C522
PRD3545-221	COND DISC	220 pF 50V 10%	Y5P II D=5	4	C515 C516 C535 C536
PRD3965-104	COND DISC	0.1 uF 50V +80-20%	Y5V/Z5V	4	C921 C922 C923 C924
PRD4967-223	COND DISC	.022 uF 100V +80-20%	Z5V II D=7	8	C903 C904 C905 C906 C907 C908 C909 C910
PRE3951-100	COND ELECT	10 uF 10V 20%	85'C	1	C541
PRE3952-100	COND ELECT	10 uF 16V 20%	85'C	1	C533
PRE3954-101	COND ELECT	100 uF 35V 20%	85'C	4	C505 C506 C525 C526
PRE3955-100	COND ELECT	10 uF 50V 20%	85'C	2	C512 C532
PRE3955-101	COND ELECT	100 uF 50V 20%	85'C	2	C511 C531
PRE3955-109	COND ELECT	1 uF 50V 20%	85'C	5	C503 C504 C523 C524 C534
PRE3955-470	COND ELECT	47 uF 50V 20%	85'C	4	C507 C508 C527 C528
PRM3745-104	COND MYLAR	0.1 uF 50V 10%		6	C509 C510 C529 C530 C918 C920
PVD1395-100	COND DISC	10 pF 50V +-0.5pF	NP0 HI PITCH=5 mm	2	C517 C537
PVE3954-222	COND ELECT	2200 uF 35V 20%	P=5/7.5 mm	2	C915 C916
PVE3955-332	COND ELECT	3300 uF 50V 20%		2	C917 C919 C820 C821
PVE3953-222	COND ELECT	2200 uF 25V 20%		1	C926
PRD3545-101	COND DISC	100 pF 50V 10%	Y5P	4	C485 C486 C735 C736
PRD3545-104	COND DISC	0.1 uF 50V 10%	Y5P	21	C473 C474 C475 C476 C721 C722 C723 C724 C852 C853 C865 C866 C928 C931 C935 C936 C937 C945 C946 C947 C948
PRD3545-201	COND DISC	200 pF 50V 10%	Y5P	4	C463 C464 C713 C714
PRD3545-681	COND DISC	680 pF 50V 10%	Y5P	4	C469 C470 C719 C720
PRD4965-203	COND DISC	0.02 uF 50V +80-20%	Z5V II D=7	4	C941 C942 C943 C944
PRE3951-100	COND ELECT	10 uF 10V 20%	85'C	1	C934
PRE3951-221	COND ELECT	220 uF 10V 20%	85'C	1	C949
PRE3952-220	COND ELECT	22 uF 16V 20%	85'C	1	C911
PRE3952-221	COND ELECT	220 uF 16V 20%	85'C	5	C932 C933 C938 C939 C940
PRE3955-109	COND ELECT	1 uF 50V 20%	85'C	8	C487 C488 C489 C490 C737 C738 C739 C851
PRE3955-229	COND ELECT	2.2 uF 50V 20%	85'C	1	C861
PRE3955-479	COND ELECT	4.7 uF 50V 20%	85'C	4	C857 C858 C859 C912
PRM3737-102	COND MYLAR	0.001 uF 100V 5%		8	C457 C458 C459 C460 C707 C708 C709 C710
PRM3737-123	COND MYLAR	0.012 uF 100V 5%		1	C806
PRM3737-182	COND MYLAR	0.0018uF 100V 5%		4	C461 C462 C711 C712
PRM3737-183	COND MYLAR	0.018 uF 100V 5%		2	C854 C855
PRM3737-273	COND MYLAR	0.027 uF 100V 5%		8	C453 C454 C455 C456 C703 C704 C705 C706
PRM3737-303	COND MYLAR	0.03 uF 100V 5%		1	C856
PRM3737-392	COND MYLAR	0.0039uF 100V 5%		4	C451 C452 C701 C702
PRM3737-472	COND MYLAR	0.0047uF 100V 5%		8	C465 C466 C467 C468 C715 C716 C717 C718
PRM3737-683	COND MYLAR	0.068 uF 100V 5%		1	C805
PRM3737-823	COND MYLAR	0.082 uF 100V 5%		2	C803 C804
PRN3952-100	COND ELECT	10 uF 16V 20%	NON-POLAR	1	C950

Part#		Description		Qty	Designator/Details
PRD1335-150	COND DISC	15 pF 50V 5%	NP0	1	C809
PRD3545-101	COND DISC	100 pF 50V 10%	Y5P	1	C814
PRD3545-102	COND DISC	1000 pF 50V 10%	Y5P	1	C810
PRD3965-104	COND DISC	0.1 uF 50V +80-20%	Y5V/Z5V	2	C801 C802
PRE3951-101	COND ELECT	100 uF 10V 20%	85'C	1	C813
PRE3955-229	COND ELECT	2.2 uF 50V 20%	85'C	1	C808
PRM3737-104	COND MYLAR	0.1 uF 100V 5%		2	C803 C804
PRM3737-123	COND MYLAR	0.012 uF 100V 5%		1	C806
PRM3737-393	COND MYLAR	0.039 uF 100V 5%		1	C812
PRM3737-473	COND MYLAR	0.047 uF 100V 5%		4	C830 C831 C832 C833
PRM3737-563	COND MYLAR	0.056 uF 100V 5%		1	C807
PRM3737-683	COND MYLAR	0.068 uF 100V 5%		2	C805 C811
PRM3745-104	COND MYLAR	0.1 uF 50V 10%		2	C822 C823

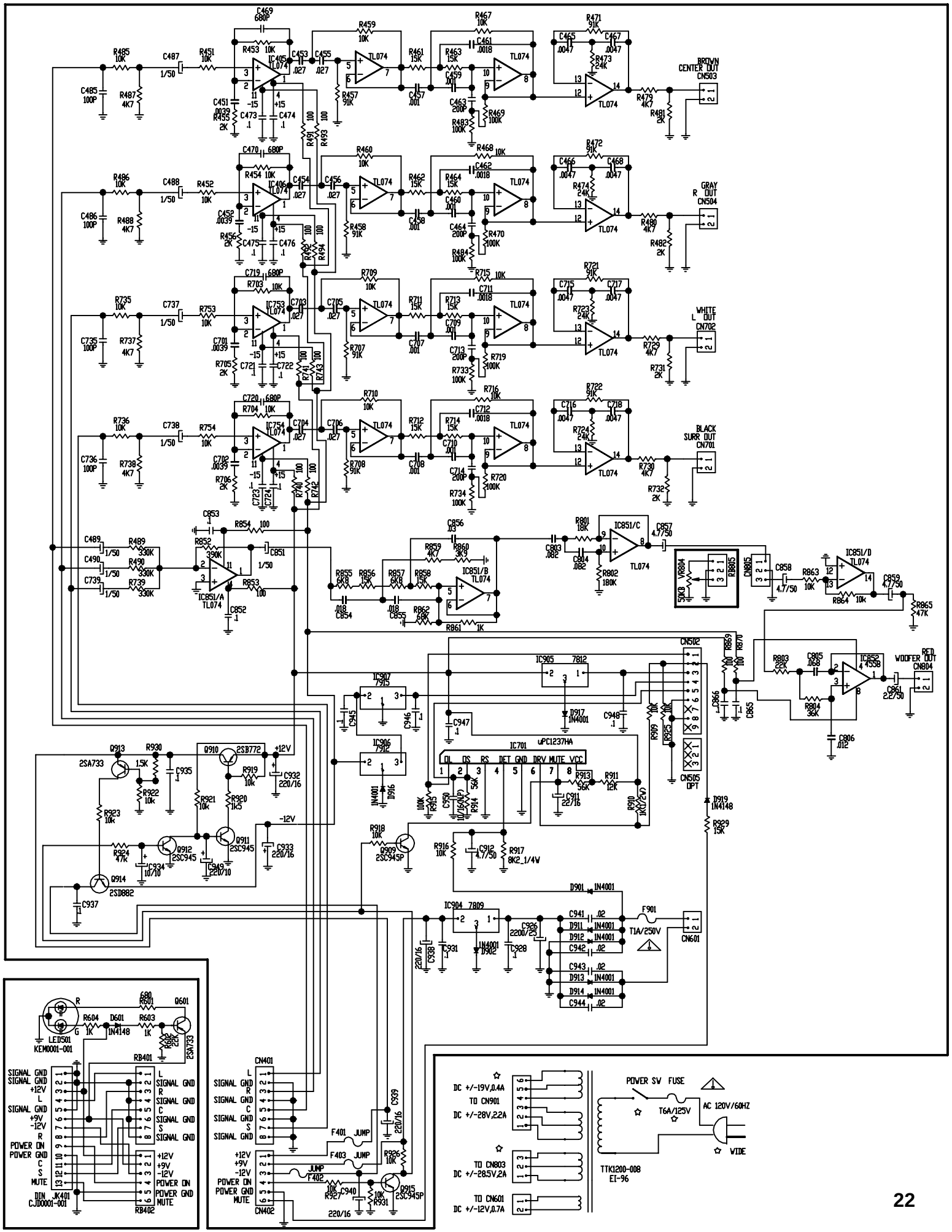
Resistors

QAF0620-351	RESISTOR	350 OHM 1/6W 2% CF	1	FROM C485 (-) TO IC852 PIN5
QAF0650-103	RESISTOR	10K OHM 1/6W 5% CF	2	Q915 BETWEEN "B" TO "E", FR.IC852 PIN 8 TO PIN 6
QAF0650-104	RESISTOR	100K OHM 1/6W 5% CF	1	FROM Q909 "BASS" TO IC852 PIN 7
QAF0650-152	RESISTOR	1.5K OHM 1/6W 5% CF	1	Q913 BETWEEN "B" TO "E"
QAF0650-474	RESISTOR	470K OHM 1/6W 5% CF	1	FR. IC852 PIN 7 TO PIN 5
QAF0650-822	RESISTOR	8.2K OHM 1/6W 5% CF	1	FROM IC852 PIN 8 TO PIN 5
QAF0250-102	RESISTOR	1.0K OHM 1/2W 5% CF	1	R910
QAF0450-822	RESISTOR	8.2K OHM 1/4W 5% CF	1	R917
QAF0650-101	RESISTOR	100 OHM 1/6W 5% CF	12	R491 R492 R493 R494 R740 R741 R742 R743 R853 R854 R869 R870
QAF0650-102	RESISTOR	1K OHM 1/6W 5% CF	1	R861
QAF0650-103	RESISTOR	10K OHM 1/6W 5% CF	32	R451 R452 R453 R454 R459 R460 R467 R468 R485 R486 R703 R704 R709 R710 R715 R716 R735 R736 R753 R754 R863 R864 R909 R916 R918 R919 R921 R922 R923 R925 R926 R927
QAF0650-104	RESISTOR	100K OHM 1/6W 5% CF	9	R469 R470 R483 R484 R719 R720 R733 R734 R915
QAF0650-123	RESISTOR	12K OHM 1/6W 5% CF	1	R911
QAF0650-152	RESISTOR	1.5K OHM 1/6W 5% CF	1	R920
QAF0650-153	RESISTOR	15K OHM 1/6W 5% CF	11	R461 R462 R463 R464 R711 R712 R713 R714 R856 R858 R929
QAF0650-183	RESISTOR	18K OHM 1/6W 5% CF	1	R801
QAF0650-184	RESISTOR	180K OHM 1/6W 5% CF	1	R802
QAF0650-202	RESISTOR	2K OHM 1/6W 5% CF	8	R455 R456 R481 R482 R705 R706 R731 R732
QAF0650-223	RESISTOR	22K OHM 1/6W 5% CF	1	R803
QAF0650-243	RESISTOR	24K OHM 1/6W 5% CF	4	R473 R474 R723 R724
QAF0650-334	RESISTOR	330K OHM 1/6W 5% CF	3	R489 R490 R739

Part#		Description		Qty	Designator/Details
QAF0650-363	RESISTOR	36K OHM 1/6W 5% CF		1	R804
QAF0650-392	RESISTOR	3.9K OHM 1/6W 5% CF		1	R860
QAF0650-394	RESISTOR	390K OHM 1/6W 5% CF		1	R852
QAF0650-472	RESISTOR	4.7K OHM 1/6W 5% CF		9	R479 R480 R487 R488 R729 R730 R737 R738 R859
QAF0650-473	RESISTOR	47K OHM 1/6W 5% CF		2	R865 R924
QAF0650-563	RESISTOR	56K OHM 1/6W 5% CF		2	R913 R914
QAF0650-682	RESISTOR	6.8K OHM 1/6W 5% CF		2	R855 R857
QAF0650-683	RESISTOR	68K OHM 1/6W 5% CF		1	R862
QAF0650-913	RESISTOR	91K OHM 1/6W 5% CF		8	R457 R458 R471 R472 R707 R708 R721 R722
QAF0450-681	RESISTOR	680 OHM 1/4W 5% CF		1	R601
QAF0650-102	RESISTOR	1K OHM 1/6W 5% CF		2	R603 R604
QAF0650-223	RESISTOR	22K OHM 1/6W 5% CF		1	R602
QAS0200-475	RESISTOR	4.7M OHM 1/2W 10%	UL STATIC DISCHARGE	1	AC LINE CORD TO SOLDER LUG
QAF0250-100	RESISTOR	10 OHM 1/2W 5% CF		1	R815
QAF0250-101	RESISTOR	100 OHM 1/2W 5% CF		1	R817
QAF0650-102	RESISTOR	1K OHM 1/6W 5% CF		2	R808 R820
QAF0650-153	RESISTOR	15K OHM 1/6W 5% CF		2	R806 R807
QAF0650-154	RESISTOR	150K OHM 1/6W 5% CF		1	R825
QAF0650-204	RESISTOR	200K OHM 1/6W 5% CF		1	R802
QAF0650-223	RESISTOR	22K OHM 1/6W 5% CF		1	R824
QAF0650-392	RESISTOR	3.9K OHM 1/6W 5% CF		1	R809
QAF0650-393	RESISTOR	39K OHM 1/6W 5% CF		1	R821
QAF0650-472	RESISTOR	4.7K OHM 1/6W 5% CF		1	R805
QAF0650-473	RESISTOR	47K OHM 1/6W 5% CF		1	R818
QAF0650-563	RESISTOR	56K OHM 1/6W 5% CF		1	R810
QAF0650-683	RESISTOR	68K OHM 1/6W 5% CF		1	R822
QAF0250-331	RESISTOR	330 OHM 1/2W 5% CF		4	R515 R518 R535 R538
QAM0250-479	RESISTOR	4.7 OHM 1/2W 5% MF		4	R511 R512 R531 R532
QHM1050-479	RESISTOR	4.7 OHM 1W 5% MF	HI P:15mm W/KINK	1	R928
QVE3050-228	RESISTOR	0.22 OHM 3W 5% HI	CEMENT FIXED RADIAL	4	R545 R546 R547 R548
QAF0650-202	RESISTOR	2K OHM 1/6W 5% CF		1	VR801
QAM0250-479	RESISTOR	4.7 OHM 1/2W 5% MF		1	R816
QHS0250-100	RESISTOR	10 OHM 1/2W 5%	FUSEABLE	2	R811 R812
QVE3050-228	RESISTOR	0.22 OHM 3W 5% HI	CEMENT FIXED RADIAL	2	R813 R814
QAF0450-102	RESISTOR	1.0K OHM 1/4W 5% CF		4	R516 R517 R536 R537
QAF0450-222	RESISTOR	2.2K OHM 1/4W 5% CF		8	R507 R508 R509 R510 R527 R528 R529 R530
QAF0650-102	RESISTOR	1K OHM 1/6W 5% CF		9	R503 R504 R505 R506 R523 R524 R525 R526 R562
QAF0650-103	RESISTOR	10K OHM 1/6W 5% CF		3	R564 R907 R908
QAF0650-152	RESISTOR	1.5K OHM 1/6W 5% CF		1	R902
QAF0650-154	RESISTOR	150K OHM 1/6W 5% CF		4	R549 R550 R551 R552
QAF0650-223	RESISTOR	22K OHM 1/6W 5% CF		2	R565 R570

Part#		Description		Qty	Designator/Details
QAF0650-472	RESISTOR	4.7K OHM 1/6W 5% CF		1	R561
QAF0650-473	RESISTOR	47K OHM 1/6W 5% CF		8	R501 R502 R513 R514 R521 R522 R533 R534
MRR0503-012	CNTL ROTRY	50K OHM B DOUBLE	T-MCRV162G L=15W/NET	1	VR804
Miscellaneous					
TTK1200-008	PWR TRANS	EI-96 120V	ESC350 (JBL)	1	POWER TRANSFORMER (120v)
FTW6080-312	SPK DRIVER	60W 8" 4 OHM		1	WOOFER
IVE0041-001	WFR GASKET	OD210xID184xT1.0 mm	EVA BLK W/ADHESIVE	1	FOR DRIVER
KSA2200-002	FUSE	2A 250V SLOW	5x20mm VDE	1	F901
KSA2100-002	FUSE	1A 250V SLOW	5x20mm UL/CSA/T-MARK	1	
KSA2315-104	FUSE	3.15A 250V SLOW	5x20mm RUL/VDE	1	
KSA1600-101	FUSE	6A 125V SLOW	5x20mm UL/CSA/T-MARK	1	
MRL2212-002	RELAY	MI-SH-212LM 12V DC	44 mA GOOD SKY	2	RL501 RL502
MRL2212-005	RELAY	SHINMEI RPA-12 V DC	10A(AC)250V	1	RL801
MSV0001-004	SW ROCKER	5A AC 250V TV-5	CHILY CAT NO.3051		
2559-080022	LINE LINK	370 mm BLACK VDE		1	AC SW TO X'FORMER
47455-D52	LINE CORD	SPT-2 1980mm POLARIZ	BLK-UL DBL INSULA	1	
GTN0043-002	TIN FOIL	L280xW180xT0.5mm	ESC300b/ESC350	1	MAIN PCB SHILDING
H016504-316	SCREW	W6#-20xL16 mm	BLACK WAFER HEAD	4	BOTTOM TO WOOD BOX-4
H016701-316	SCREW	W8#-18xL16 mm HD=6.8	BLACK PAN HEAD	8	DRIVER TO WOOD BOX-8
H060501-320	SCREW	M4.0xP0.7xL20 mm	BLACK PAN HEAD	22	HSINK TO WOOD BOX-10, JACK PLT TO WOOD BOX-8, MAIN PCB TO WOOD PCB-4
CCN3962-006	CONNECTOR	6 PIN CL3962WVO	POST BASE TOP P=3.96	1	CN901
CCN3962-008	CONNECTOR	8 PIN CL3962WVO	POST BASE TOP P=3.96	1	CN501
CFC2557-001	FUSE CLIP	DIA5xL20mm FUSE		4	FOR F902 F903
DFH1229-001	FUSE HOLDR	FUSE HOLDER FH-B02	10A; DIA 5.2x20		
GAL0010-005	HEAT SINK			1	FOR IC901
H100301-306	SCREW	M3.0xL6 mm	BLACK	1	IC901 TO H/SINK-1
H120302-308	SCREW	M3.0x0.5PxL8.0 mm	BLK W/WASHER HEAD		
HNI1482	NUT	@14x3.5mm			
HWF8335-005	WASHER FIB	OD8.3xID3.5xT0.5 mm	UNFINISHED		
HWS1550-515	WASHER STL	OD15xID5.0xT1.5mm	ZINC PLATE		
BPA0021-001	REAR COVER	HI-PS	ESC350 (JBL)		
BRB0004-001	RUBBER BUS	NR-3			
BRB0005-001	RUBBER BUS	NR-3			
BRB0022-001	RUBBER				
BRB0023-001	RUBBER				
BRF0007-001	RUBBER	BLACK			
CCN0027-003	AC CONNTOR	AC CONNECTOR (HW-C4)	FOR WIRE #16-24		
DBU0002-001	BUSHING	AC LINE BUSHING	PIN GOOD 4RF-5		
GSE0139-004	JACK PLATE	SECC 120V	ESC350 (JBL)		

Part#		Description		Qty	Designator/Details
H060301-314	SCREW	M3.0xP0.5xL14 mm	BLACK PAN HEAD		
H101001-310	SCREW	M3.0xP1.27-2RHxL10mm	BLACK PAN HEAD		
HNM3055-125	NUT	M3.0x2.5t NICKEL			
APE0247-A21	TEMINAL AY	TERMINAL PCB ASSY	ESC350 (JBL) (AI)	1	
CJD0001-001	DIN JACK	13 PIN HOSIDEN	TCS5003-01-4151	1	JK401
CSL6521-002	SOLDER LUG	OD7.0xID3.5xT0.3 mm	NICKEL	1	P501
CTM0005-001	TERMINAL	JACK ASSY MOLEX TYPE	ABS BLK (ESC300)	1	JK501
DSS0545-003	HOUSING	LED HOUSING LEK2-4.5	5 DIA H=4.5 mm	1	FOR LED501
KEM0001-001	LED	5 DIA RED/GREEN	TWO COLORS CHANGE	1	LED501
4999A-296	CON/WRE AY	8 COND 350 mm	RECEPTACLE TERMINAL	1	RIB501 TO CN501
4999A-461	CON/WRE AY	3 COND 200 mm	P=2.5mm SHIELD WIRE	1	RB805
4999A-462	CON/WRE AY	8 COND 250 mm	P=2.5mm SHIELD WIRE	1	RB401
APE0247-021	TERM PCB A	TERMINAL PCB ASSY	ESC350		
CCN1500-018	CONNECTOR	B2B-XH-A 2 PIN	POST BASE TOP P=2.5	5	CN503 CN504 CN701 CN702 CN804
CCN1500-023	CONNECTOR	B3B-XH-A 3 PIN	POST BASE TOP P=2.5	1	CN805
CCN1500-024	CONNECTOR	B6B-XH-A 6 PIN	POST BASE TOP P=2.5	1	CN402
CCN1500-033	CONNECTOR	B9B-XH-A 9 PIN	POST BASE TOP P=2.5	1	CN502
CCN1500-037	CONNECTOR	B8B-XH-A 8 PIN	POST BASE TOP P=2.5	1	CN401
CCN3962-002	CONNECTOR	2 PIN CL3962WVO	POST BASE TOP P=3.96	1	CN601
CFC2557-001	FUSE CLIP	DIA5xL20mm FUSE		2	F901
CFC2557-001	FUSE CLIP	DIA5xL20mm FUSE		4	F801 F802
CSL6521-003	SOLDER LUG	OD13.0xID9.0xT0.3 mm	JG-30	1	P1
DSS0011-001	SPACER SUP	PINGOOD RL-1/6S 1SET	ESC300	4	MAIN PCB
GAL0007-001	HEAT SINK	USE MKH-610		2	IC905, IC906
GAL0010-005	HEAT SINK			2	IC904 , IC907
H101012-206	SCREW	T3.0x1.27p-2RHxL6.mm	ST.BRONZE	4	IC904, IC905, IC906, IC907
500361001B0	COND WIRE	6 COND 100 mm	P=2.5mm FLAT WIRE	1	RB402
SHR6619-001	RF COIL	1 uH MDEC T40818-08		4	L501 L502 L503 L504
SHR6619-001	RF COIL	1 uH MDEC T40818-08		1	L801
24684150BB0	FLAT CABLE	4 COND 150 mm		1	RB505A TO RB505B
5002EBE1BMM	COND WIRE	2 COND 250 mm BROWN		1	RIB503 TO CN503
5002EBJ2BMM	COND WIRE	2 COND 200 mm GRAY		1	RIB504 TO CN504
5002ECEABMM	COND WIRE	2 COND 350 mm BLACK	PITCH=2.5mm	1	RIB701 TO CN701
5002ECJ4BMM	COND WIRE	2 COND 300 mm WHITE	PITCH=2.5mm	1	RIB702 TO CN702
500361501B0	COND WIRE	6 COND 150 mm BLACK	P:2.5mm UL2877 #26GA	1	RIB801 TO CN801
500393001B0	COND WIRE	9 COND 300 mm BLACK	26 AWG PITCH=2.5 mm	1	RIB502 TO CN502
CCN1500-024	CONNECTOR	B6B-XH-A 6 PIN	POST BASE TOP P=2.5	1	CN801
CCN3962-003	CONNECTOR	3 PIN CL3962WVO	POST BASE TOP P=3.96	1	CN803
5002ABEBBMM	CON/CABLE	2 COND 200 mm RED	1533 #28 PITCH:2.5mm	1	RIB804 TO CN804
VWT13A3-025	WIRE TERM	WIRE TERMINAL 250 mm	+BIG TML -SMALL TML	1	CN802 TO SPEAKER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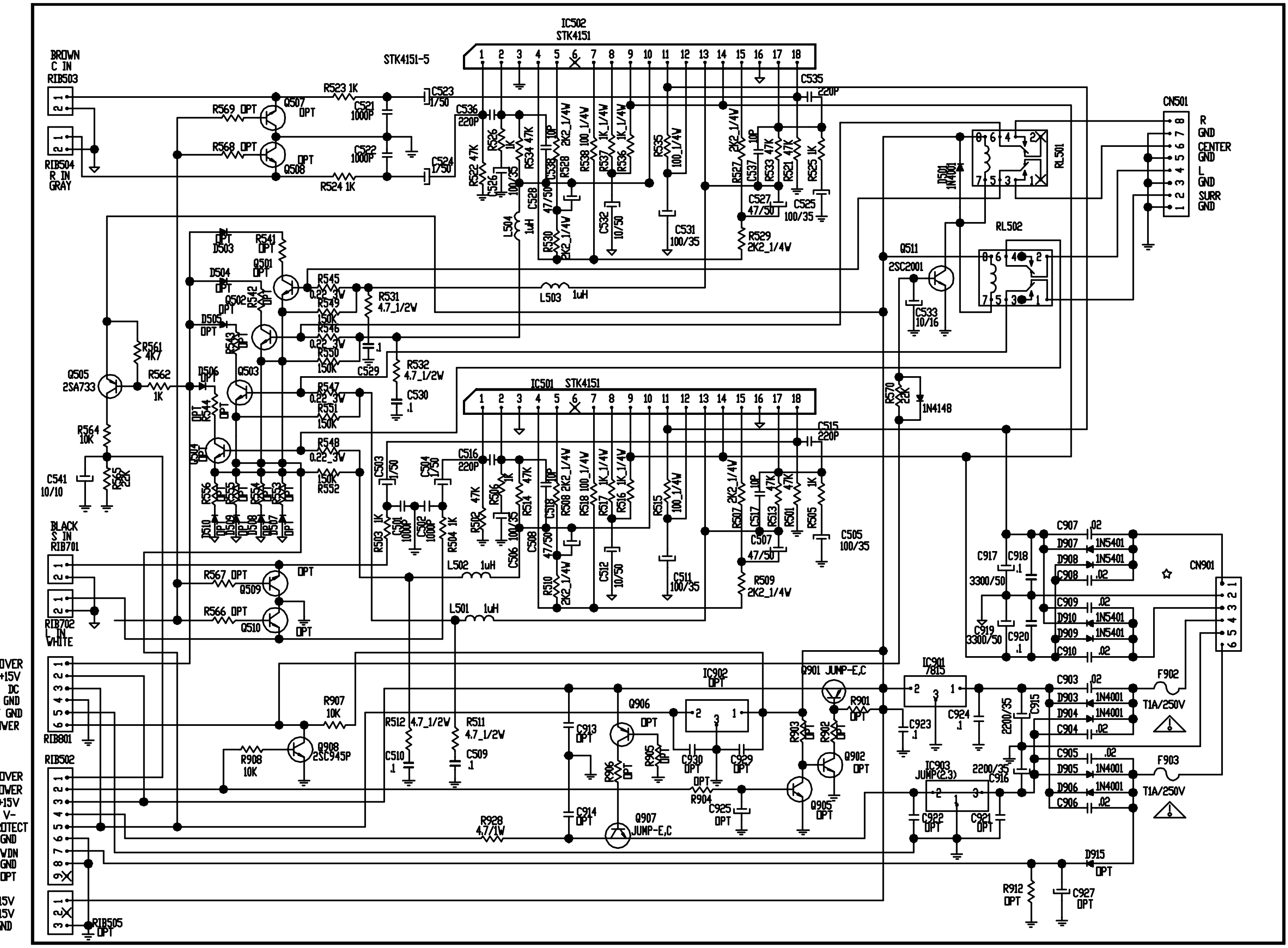
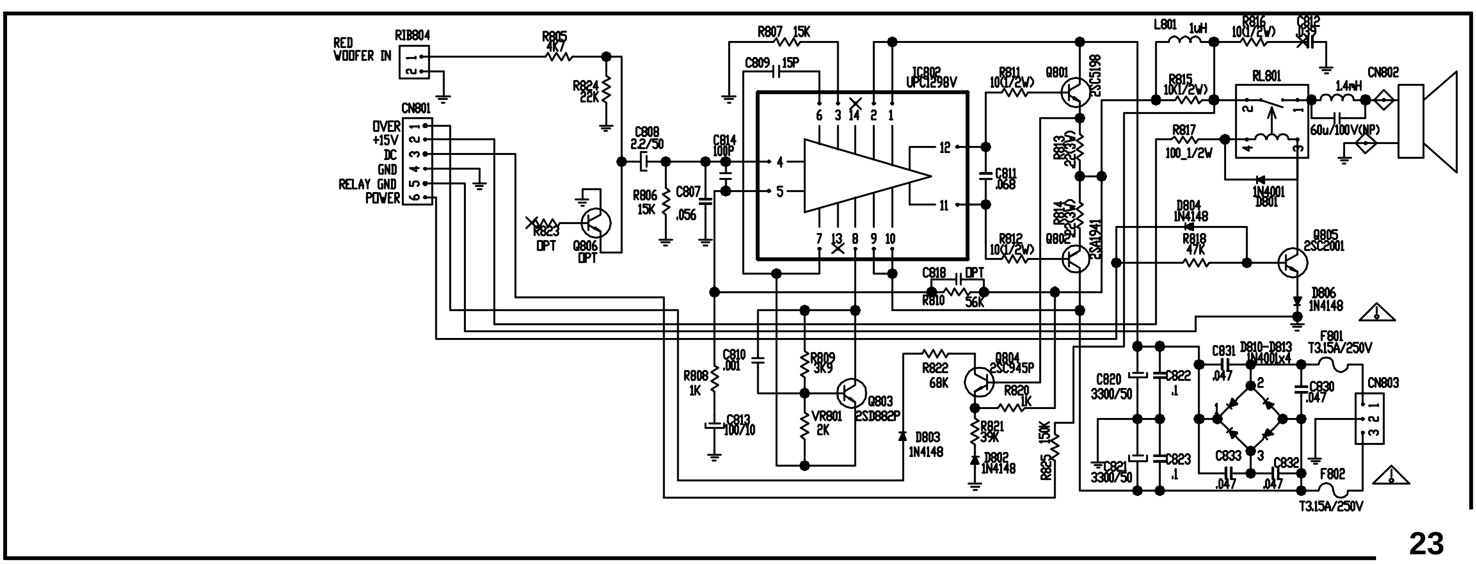
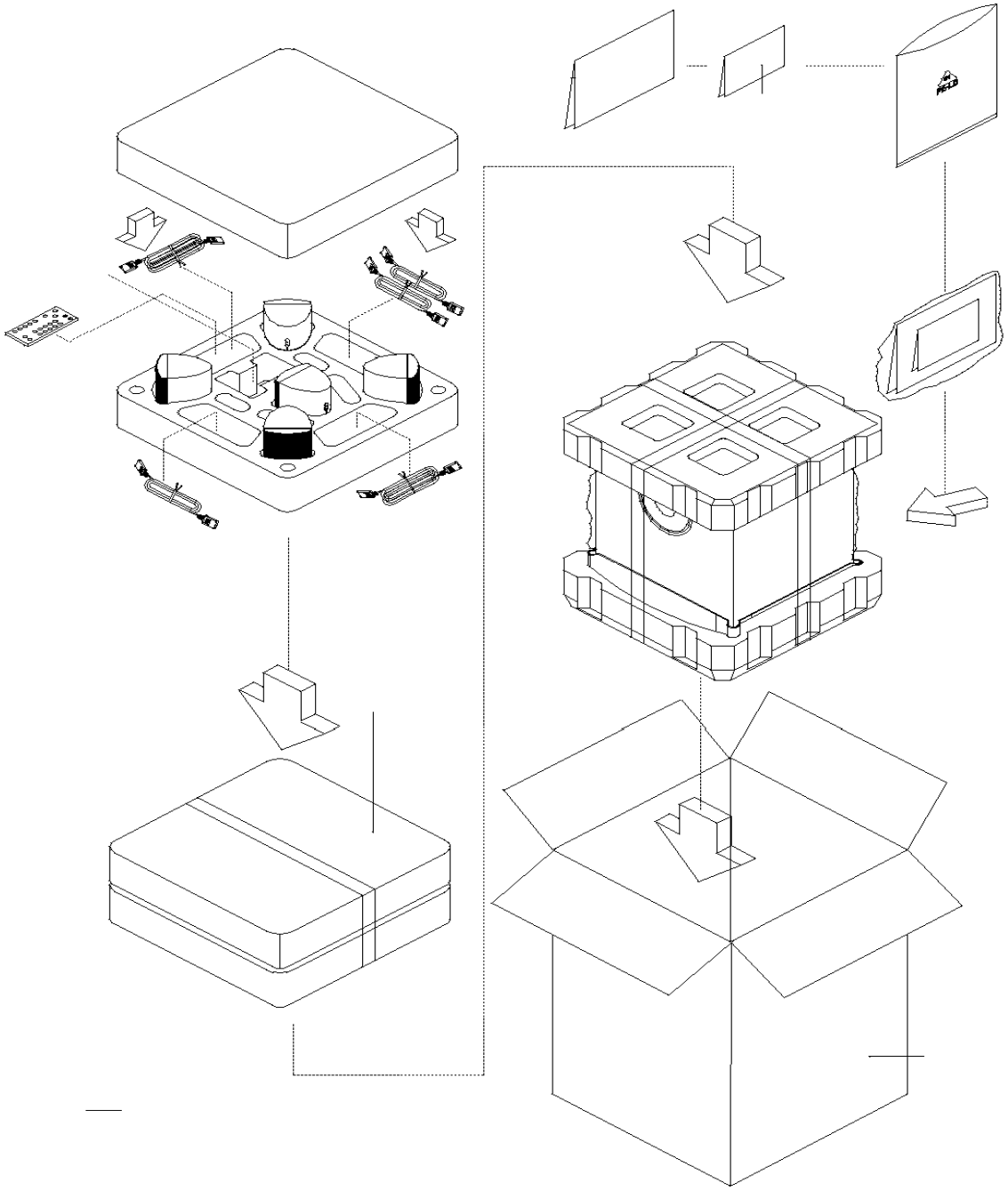
GRAY R OUT CN504
WHITE L OUT CN702
BLACK SURR OUT CN701
RED WOOFER OUT CN804
CN502
CN505 OPT
CN601
T1A/250V
POWER SW FUSE
T6A/125V
AC 120V/60HZ
WIDE
TTK1200-008 EI-96
TO CN901 DC +/-19V,0.4A
DC +/-28V,2.2A
TO CN803 DC +/-28.5V,2A
TO CN601 DC +/-12V,0.7A
CN401
CN402
JK401 CJD0001-001
RB401
RB402
LED501 KEM0001-001
IC701 uPC1237HA
DL DS RS DET GND DRV MUTE VCC
F401 JUMP
F402 JUMP
F403 JUMP


IC502
STK4151
STK4151-5
BROWN
C IN
RIB503
RIB504
R IN
GRAY
R523 1K
C523 1/50
R569 OPT
Q507 OPT
C521 1000P
R568 OPT
Q508 OPT
C522 1000P
R524 1K
C524 1/50
C536 220P
R522 47K
R526 1K
C526 100/35
R534 47K
C538 10P
C528 47/50
R528 2K2_1/4W
R538 100_1/4W
R537 1K_1/4W
R536 1K_1/4W
R535 100_1/4W
C532 10/50
C531 100/35
L504 1uH
R530 2K2_1/4W
C535 220P
R527 2K2_1/4W
C537 10P
R533 47K
R521 47K
R525 1K
C527 47/50
C525 100/35
R529 2K2_1/4W
CN501
R
GND
CENTER
GND
L
GND
SURR
GND
D501 1N4001
RL501
RL502
Q511
2SC2001
C533 10/16
R570 22K
1N4148
D503 OPT
R541 OPT
Q501 OPT
D504 OPT
Q502 OPT
R542 OPT
D505 OPT
R543 OPT
R545 0.22_3W
R549 150K
R531 4.7_1/2W
L503 1uH
R546 0.22_3W
R550 150K
C529 .1
R532 4.7_1/2W
C530 .1
Q505
2SA733
R561 4K7
R562 1K
D506 OPT
R544 OPT
Q503
R547 0.22_3W
R551 150K
Q504 OPT
R548 0.22_3W
R552 150K
R564 10K
C541 10/10
R565 22K
R556 OPT
R555 OPT
R554 OPT
R553 OPT
D510 OPT
D509 OPT
D508 OPT
D507 OPT
IC501 STK4151
C503 1/50
C504 1/50
C516 220P
C501 1000P
C502 1000P
R503 1K
R504 1K
R502 47K
R506 1K
C506 100/35
R514 47K
C518 10P
C508 47/50
R508 2K2_1/4W
R518 100_1/4W
R517 1K_1/4W
R516 1K_1/4W
R515 100_1/4W
R510 2K2_1/4W
C512 10/50
C511 100/35
C515 220P
R507 2K2_1/4W
C517 10P
R513 47K
R501 47K
R505 1K
C507 47/50
C505 100/35
R509 2K2_1/4W
L502 1uH
L501 1uH
BLACK
S IN
RIB701
R567 OPT
Q509 OPT
R566 OPT
Q510 OPT
RIB702
L IN
WHITE
OVER
+15V
DC
GND
GND
WER
RIB801
R907 10K
R908 10K
Q908
2SC945P
R512 4.7_1/2W
R511 4.7_1/2W
C510 .1
C509 .1
OVER
WER
+15V
V-
OTECT
GND
WDN
GND
OPT
RIB502
R928 4.7/1W
15V
15V
ND
RIB505 OPT
C913 OPT
C914 OPT
Q906 OPT
R906 OPT
R905 OPT
Q907 JUMP-E,C
IC902 OPT
C930 OPT
C929 OPT
R904 OPT
C925 OPT
Q901 JUMP-E,C
R901 OPT
R903 OPT
R902 OPT
Q902 OPT
Q905 OPT
IC901 7815
C923 .1
C924 .1
C915 2200/35
IC903 JUMP(2,3)
C916 2200/35
C922 OPT
C921 OPT
C907 .02
D907 1N5401
D908 1N5401
C908 .02
C909 .02
D910 1N5401
D909 1N5401
C910 .02
C917 3300/50
C918 .1
C919 3300/50
C920 .1
CN901
C903 .02
D903 1N4001
D904 1N4001
C904 .02
F902 T1A/250V
C905 .02
D905 1N4001
D906 1N4001
C906 .02
F903 T1A/250V
D915 OPT
R912 OPT
C927 OPT


RED
WOOFER IN
RIB804
R805 4K7
R824 22K
CN801
OVER
+15V
DC
GND
RELAY GND
POWER
R823 OPT
Q806 OPT
C808 2.2/50
R806 15K
C807 .056
C814 100P
R807 15K
C809 15P
IC802
UPC1298V
R811 10(1/2W)
Q801 2SC5198
C811 .068
R813 .22(3W)
R814 .22(3W)
R812 10(1/2W)
Q802 2SA1941
C818 OPT
R810 56K
C810 .001
R808 1K
C813 100/10
R809 3K9
VR801 2K
Q803 2SD882P
D803 1N4148
R822 68K
Q804 2SC945P
R820 1K
R821 39K
D802 1N4148
R825 150K
L801 1uH
R816 10(1/2W)
C812 .039
R815 10(1/2W)
RL801
1.4mH
CN802
60u/100V(NP)
R817 100_1/2W
1N4001 D801
D804 1N4148
R818 47K
Q805 2SC2001
D806 1N4148
C820 3300/50
C822 .1
C821 3300/50
C823 .1
C831 .047
D810-D813 1N4001x4
F801 T3.15A/250V
C830 .047
CN803
C833 .047
C832 .047
F802 T3.15A/250V

ESC350 PACKAGE

EAT3001-301L	CENTER SPEAKER CABLES 3M BLK			1
EAT3001-301II	FRONT SPEAKER CABLES 6M BLK			2
SAL054	REAR SPEAKER CABLE 12M BLK			2
FBL0030-001	BATTERY	LITHIUM BATTERY 3V	DIA=20, H=2.5 mm	1
ICC0160-001	OUTER CARTON	430Wx430Dx793H mm	ESC350	1
VDC0013-001	CONTROL CABLE	DIN TYPE 13 PIN	16 FT	1
WIR0020-432	REMOTE	20KEY REMOTE CONTROL		1
YOM0188-001	OWNER MANUAL	ESC350		1
YWC0009-002	REGIS CARD	REGISTRATION CARD	JBL A9C01-01 120V	1
YWC0009-005	WARRANTY CARD	1Y ELEC & 5Y LOUDSPK	WARRANTY CARD 120V	1
VTA9300-009	LOOP ANT	SHINTA PS-100		1
VTA9300-012	F PLUG ANT	FM PLUG L=1 M		1